

## key features

- industry standard 2" x 2" package
- 12, 24, and 48V input versions
- 25 Watts of output power
- 100C baseplate operation
- trim and enable pins
- fixed frequency
- 1500 VDC isolation
- 6 sided shielding



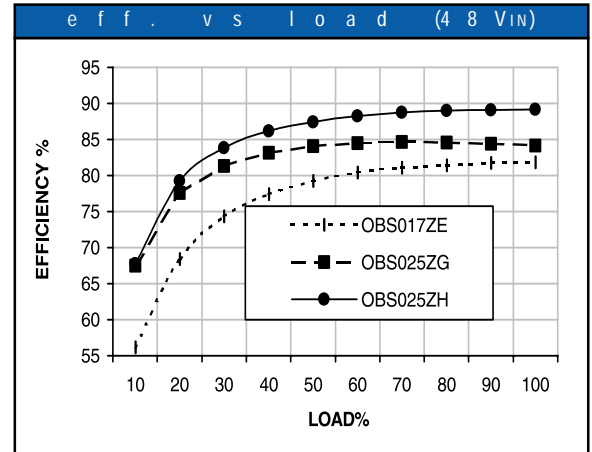
The OBS series of single output DC/DC converters provide up to 25W of output power in the industry standard 2" x 2" package and footprint. These units feature excellent efficiency, six sided shielding, and fixed switching frequency. With 100C case operation possible, the OBS series are especially suited to Telecom, Networking, and Industrial applications. These units are 100% surface mount construction, are fully compatible with production board washing processes, and are manufactured in IPD's ISO9001 factory.

## technical specifications

input	
voltage range	10 - 20 VDC
12 VDC nominal	18 - 36 VDC
24 VDC nominal	34 - 75 VDC
48 VDC nominal	25 mA
reflected ripple	shunt diode
input reverse voltage protection	

output	
setpoint accuracy	±1%
line regulation $V_{in\ min.} - V_{in\ max.}, I_{out\ rated}$	0.2% $V_o$
load regulation $I_{out\ min.} - I_{out\ max.}, V_{in\ nom.}$	0.5% $V_o$
minimum output current	10%
dynamic regulation, loadstep	25% $I_o$
Pk deviation	4% $V_o$
settling time	500 $\mu$ S
voltage trim range	±10%
short circuit / overcurrent protection	hiccup
current limit threshold range, % $I_o$ rated	110 - 140%
OVP trip range	115 - 140% $V_{out\ nom.}$
OVP	hiccup

general	
turn-on time: 24 & 48V <sub>IN</sub> , 12V <sub>IN</sub>	10 ms, 300 ms (respectively)
remote shutdown	positive
remote shutdown reference	V <sub>in</sub> negative
switching frequency	400 KHz
isolation	
input - output	1500 VDC
input - case (24V <sub>in</sub> units)	500 VDC
output - case (48 V <sub>in</sub> units)	500 VDC
temperature coefficient	0.03%/°C
case temperature	
operating range (12V input max temp +85°C)	-40 to +100°C
storage range	-40 to +125°C
humidity max, non-condensing	95%
vibration, 3 axes, 5 min each	5 g, 10-55Hz
MTBF† (Bellcore TR-NWT-000332)	1.8 x 10 <sup>6</sup> hrs
safety	UL 1950, CSA 22.2-950, EN60950
weight (approx.)	1.9 oz.



notes
† MTBF predictions may vary slightly from model to model.
Specifications typically at 25°C, normal line, and full load - unless otherwise stated.

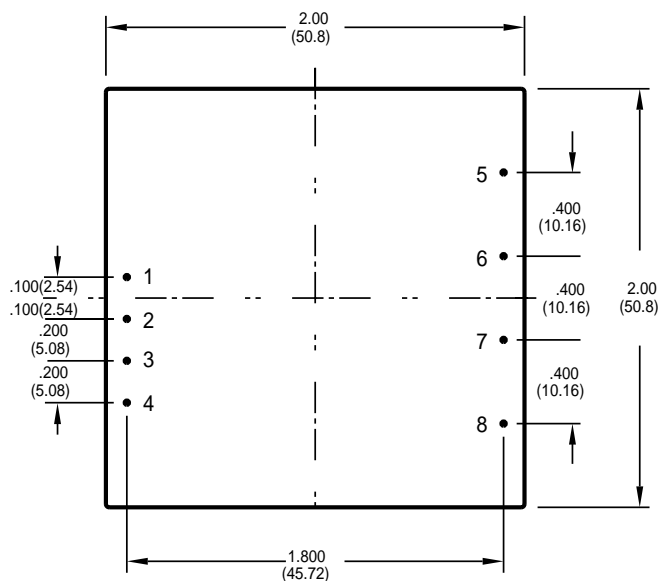
## m o d e l s

V <sub>IN</sub> (volts)	V <sub>IN</sub> range (volts)	I <sub>IN</sub> max. (amps)	V <sub>OUT</sub> (volts)	I <sub>OUT</sub> rated (amps)	ripple & noise pk-pk (mV)	efficiency typ.**	model
12	10 - 20	3.90	5	5.0	75	80%	OBS025XG
12	10 - 20	3.80	12	2.1	120	85%	OBS025XH
12	10 - 20	3.80	15	1.7	150	86%	OBS025XJ
24	18 - 36	1.15	3.3	5.0	75	80%	OBS017YE
24	18 - 36	1.95	5	5.0	75	84%	OBS025YG
24	18 - 36	1.90	12	2.1	120	88%	OBS025YH
24	18 - 36	1.90	15	1.7	150	87%	OBS025YJ
48	34 - 75	0.60	3.3	5.0	75	81%	OBS017ZE
48	34 - 75	0.94	5	5.0	75	83%	OBS025ZG
48	34 - 75	0.92	12	2.1	120	88%	OBS025ZH
48	34 - 75	0.92	15	1.7	150	88%	OBS025ZJ

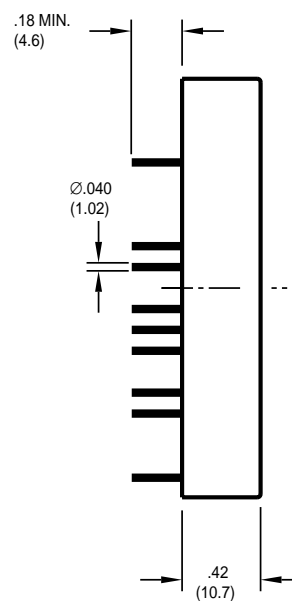
\* max input current at minimum input voltage, maximum rated output power

\*\* at nominal V<sub>IN</sub>, rated output

## m e c h a n i c a l d r a w i n g



BOTTOM VIEW



t h e r m a l i m p e d a n c e	
natural convection	10.3 C/W
100 LFM	7.7 C/W
200 LFM	6.3 C/W
300 LFM	5.1 C/W
400 LFM	4.0 C/W

Thermal impedance data is dependant on many environmental factors. The exact thermal performance should be validated for specific application.

p i n	f u n c t i o n
1	+V <sub>IN</sub>
2	-V <sub>IN</sub>
3	no conn
4	enable
5	no pin
6	+V <sub>OUT</sub>
7	-V <sub>OUT</sub>
8	trim

t o l e r a n c e s (unless otherwise specified)	
<b>Inches</b>	<b>(Millimeters)</b>
.XX ± .020	.X ± 0.5
.XXX ± .010	.XX ± .25
<b>Pin:</b>	
± .002	± .05